

Working with Archival Materials: Inspection, Housing, and Treatment



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Overview

This presentation aims to introduce concepts of physical care for collection items. Though the focus is on items already in collections, these principles may apply to incoming collections as well.

1. Inspection and Assessment
2. Housing
3. Treatment
4. Demo of Mending Techniques
5. Questions at the End

Inspection and Assessment

+ BOX 1			
Folder	Number of Items	Treatment Notes	Item Condition and Notes
1 ¹	13	Surface cleaned, humidified, flattened (all items treated)	Numbered "M-", numbering is incomplete, missing numbers 11, 12, 13; primary issues are surface staining, tidelines, dirt, folds, edge + fold tears, and hand coloring; some very thin papers with a lot of folding, creasing, tears, and losses; some handwritten notes on prints
2 ²	N/A	Treated, look for folder in the drawer	N/A
3 ³	24	Surface cleaned humidified, flattened (all items treated)	Numbered "VC/AA -#", numbering is complete; huge range of sized from letter to over 40"; primary issues are surface grime and staining, tidelines, dirt and accretions, folds, edge + fold tears, creasing, MANY oversized pieces; note some break edges along printing edges as well; lots of thinner papers that are oversized with major tears and losses
4 ⁴	8	Surface cleaned, humidified, and flattened (all items treated)	Numbered "1870-#", listed as "EO-70" in the database; numbering is complete; mostly oversized prints folded up, few single, smaller items; possibly mold ⁵ ; primary issues are surface grime and dirt, folds, edge + fold tears, creases
5 ⁶	48	Surface cleaned, humidified, and flattened (all items treated)	Numbered "GND-#", numbering is complete; no colored paper; all similar cream-colored paper; primary issues are surface dirt, grime, folds, edge + fold tears, and losses; mostly oversized prints folded in half
Total Number of Items: 224			

¹ CLAVREUIL 1352 - E, Pêcheur de 1899
² Not present
³ CLAVREUIL 1352 - H, Corps de Sûreté de l'Appel Post 1899
⁴ CLAVREUIL 1352 - N, Elections 1899
⁵ CLAVREUIL 1352 - V, 1899
⁶ CLAVREUIL 1352 - V, 1899

⁷ CLAVREUIL 1352 - VI, MARCHÉ DE 1899
⁸ CLAVREUIL 1352 - VII, Procureur de Police
⁹ CLAVREUIL 1352 - VIII, Procureur de la Seine
¹⁰ CLAVREUIL 1352 - IX, 1899

Example of a simplified survey focused on assessing the number of items in a collection and their overall condition.

Inspection and Assessment: Handling Items



Clean, Washed, Dry Hands	Nitrile Gloves	Cotton Gloves
<ul style="list-style-type: none">● Printed maps● Letters● Most books● Hands must be washed before and after handling objects	<ul style="list-style-type: none">● Photographs● Metals● Textiles● Objects (ceramics, glass, coating items, etc.)● Any item being assessed before surface cleaning● Best all-around option	<ul style="list-style-type: none">● Textiles● Polyester film (Mylar) used for encapsulation● Objects with smooth surfaces● Cotton gloves can be laundered after heavy use

Surface Cleaning: In-House vs. Vendor

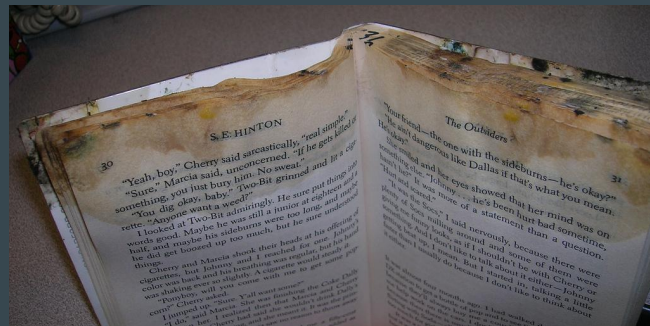
When to Clean In-House

- Only dust, dirt, or soot present
- Small amounts of **inactive** mold
- Small number of items
- Printed items such as maps, letters, posters, certificates, and books



When NOT to Clean In-House

- **Active mold!**
- Evidence of active infestation:
 - Urine
 - Feces and/or frass
 - Nests
 - Insect eggs
- Widespread infestations
- Fragile or damaged photographs
- Pastel, chalk, charcoal, or pencil drawings



Surface Cleaning: In-House PPE



Always protect yourself, your staff, and volunteers!

Personal Protective Equipment (PPE):

- Nitrile gloves (no cotton gloves!)
- N95, KN95 or surgical dust masks
- Aprons or lab coats

Surface Cleaning: In-House



Vacuums with HEPA remove almost 99.97% of dust, pollen, mold, bacteria, and any airborne particles of certain sizes. Notice the brush attachment used above.

Tools for Surface Cleaning:

- PPE! (Gloves, masks, apron/lab coat)
- Vacuum with a HEPA filter
- Cosmetic sponges
- Soot sponges
- Soft brushes
- Erasers or eraser crumbs
- Air blowers

How far is too far?

- Sometimes dirt is just ground into the surface and there's no cleaning it off
- Be careful not to cause tears or new damage from surface cleaning too roughly!

Surface Cleaning: In-House



You may not always be working in lab or library spaces. Here the team at Northwestern are inspecting and cleaning a collection in off-site storage.

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Surface Cleaning: Vendor Options

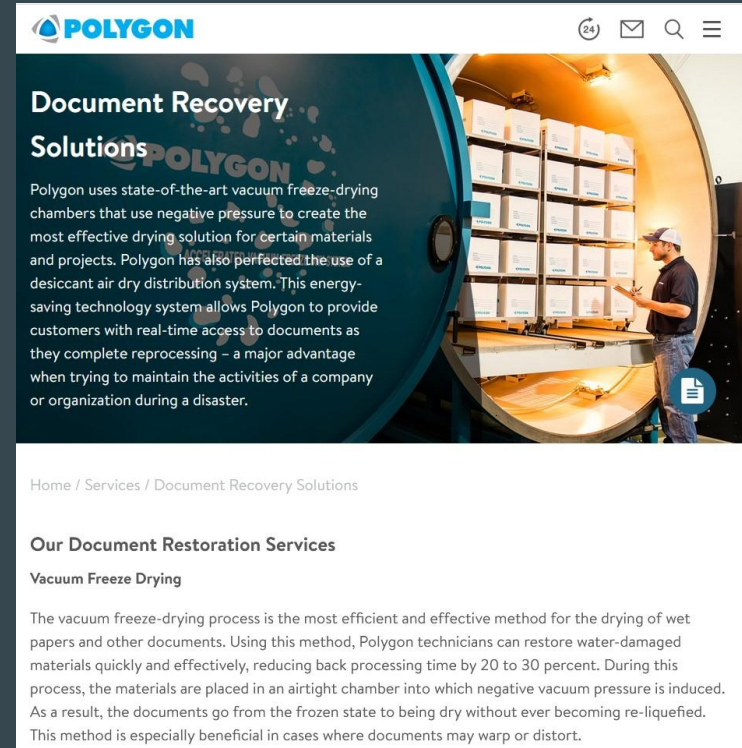
While more expensive, vendors will be able to provide more intense treatment as well as expert consultation concerning:

- Active mold
- Waterlogged materials
- Freezing/freeze-drying materials
- Digitization of damaged items
- Disaster recovery

Vendor Options may include:

- Polygon Group
- Midwest Freeze Dry
- Brouwer Brothers Steamatic
- Belfor
- BMS Cat

Be aware that not all vendors offer the same services!



POLYGON

Document Recovery Solutions

Polygon uses state-of-the-art vacuum freeze-drying chambers that use negative pressure to create the most effective drying solution for certain materials and projects. Polygon has also perfected the use of a desiccant air dry distribution system. This energy-saving technology system allows Polygon to provide customers with real-time access to documents as they complete reprocessing – a major advantage when trying to maintain the activities of a company or organization during a disaster.

Home / Services / Document Recovery Solutions

Our Document Restoration Services

Vacuum Freeze Drying

The vacuum freeze-drying process is the most efficient and effective method for the drying of wet papers and other documents. Using this method, Polygon technicians can restore water-damaged materials quickly and effectively, reducing back processing time by 20 to 30 percent. During this process, the materials are placed in an airtight chamber into which negative vacuum pressure is induced. As a result, the documents go from the frozen state to being dry without ever becoming re-liquefied. This method is especially beneficial in cases where documents may warp or distort.

Polygon Group's web page for Document Recovery Solutions. Polygon Group provides services all across the United States.

Housing: Materials

Things to look for in long-term housing materials:

- Lignin-Free
- Made with cotton fiber where possible
- Buffered or unbuffered (this is for storing with an alkaline buffer for especially brittle things)
- Abbey pH pen to test housings you may already have



Tip: Always question what labels actually mean!

- “Archival”?
- “Acid-Free”?
- “Conservation Grade?”



Image Credit: Hammersmith and Fulham Library and Archives



Image Credit: Abraham Lincoln Presidential Library and Museum

Housing: Folders and Interleaving

Folders

- Folders can have different openings depending on an item's needs
- Two typical thicknesses: 10pt and 20pt
 - 10pt is thinner, reduces thickness, but is less rigid
 - 20pt is thicker, will increase overall thickness, but is more rigid

Interleaving/Inner Folders

- Interleaving could be unbuffered or buffered papers or tissue
- Buffered materials are best used next to very acidic materials to slow degradation and neutralize any acidic degradation products



Housing: Plastic Sleeves

- Never use plastics that are colored, acidic, or contain other additives, fillers, or plasticizers
 - All of these additional materials could make the plastic more reactive or leach out into objects
- Housing in less stable plastics can be done temporarily

Always Use (Inert Plastics):

- Polyester (Mylar)
- Polypropylene
- Polyethylene

Never Use (Reactive Plastic):

- Polyvinyl chloride (PVC)
- Any kind of “vinyl” plastic



If you want to avoid leaving fingerprints, wear gloves while working with your plastic sleeves.

Housing: Boxes and Customization

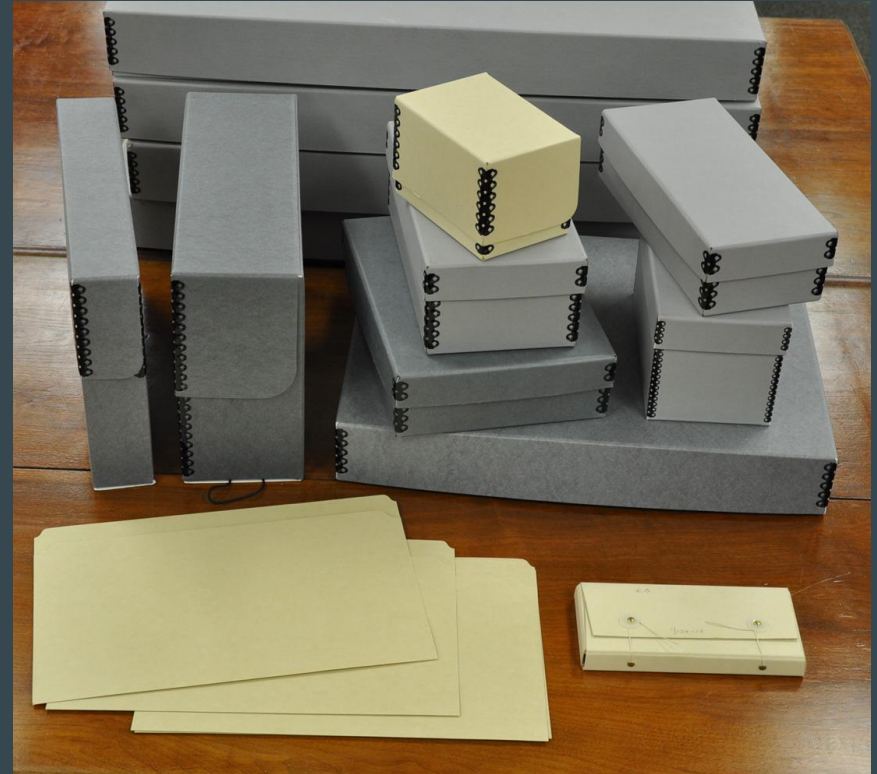
Image Credit: Pakboxes

Standard vs. Custom Measurements

- Document box sizing
 - Banker's
 - Flat document
 - Letter
 - Legal
 - Photo
 - Etc.
- Kaseboxes (HF Group)
- Custom oversized boxes (Talas)

Customization of Housing

- Rigid folders
- Four flaps
- Pocket with a sling
- Retrofitting
- Etc.



A variety of housing boxes including document, flip-tip, photo, and phase boxes.

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Creating custom housings can get pretty complicated!

Treatment: Pre-Treatment Considerations

Questions to ask **BEFORE** considering treatment:

- Does this object really need treatment?
 - Consider use, rarity, monetary value, and other contributing factors to determine what items need treatment.
 - Don't fall into the trap of treating things just because you can!
- How will treatment alter this object?
 - Once you've applied a mend, it takes more treatment to undo it.
 - Treatment requires handling, which could also inadvertently cause damage.
- What are the risks present that need to be considered?
 - Media stability and solubility (inks, paint, watercolors, pastels, etc)
 - Risk of creating tidelines
 - Fragile paper/support that becomes

Treatment is always a **last resort!** Housing should always be considered first.



This entire volumes was repaired with tape, and not something to treat.

Treatment: In-House vs. Hiring a Conservator

	In-House Treatment	Hiring a Conservator*
Benefits	<ul style="list-style-type: none">• Least expensive• Most control over what treatment is performed• Could be quick depending on amount of treatment needed	<ul style="list-style-type: none">• High degree of skilled work• Consultation with experts on treatment• Receive more vigorous treatment (washing, lining, etc.)
Limitations	<ul style="list-style-type: none">• Limited by supplies available• Requires additional time and training• Limited access to specialized lab equipment	<ul style="list-style-type: none">• Most expensive• Shipping collection materials• Limited by regional centers or those in private practice

*Resources on finding a conservator will be provided at the end of the presentation.

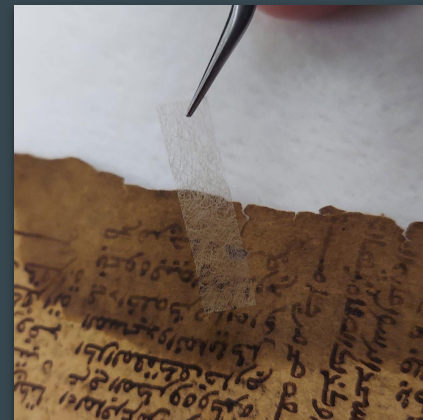
Treatment: Repair Tissues



Image credit: Talas Online



Image credit: Talas Online



Document Tape

- Tissue coated in a tacky synthetic adhesive
- Essentially a pressure-sensitive tape with a paper carrier
- Quick and easy but essentially irreversible

Heat-Set Tissue

- Tissue coated in a heat-activated synthetic adhesive
- Good for very water-sensitive materials
- Can be removed with heat

East Asian Tissue

- Variety of uncoated tissues usually made of long mulberry fibers
- Requires use of an adhesive to make it stick
- Best option for repair

Treatment: Adhesives



Image Credit: The Book & Paper Gathering



Image Credit: Washi Arts



Image Credit: Papercraftpanda



Image Credit: Talas Online

Wheat Starch Paste (WSP)

- Strongest adhesive but not as flexible
- Water soluble
- Needs to be cooked and strained
- Shelf life of about a month depending on how its prepared

Rice Starch Paste (RSP)

- Weaker than WSP but stronger than MC
- Water soluble
- Can come in pre-made tubes
- Needs to be cooked and strained




Methyl Cellulose (MC)

- Weakest of the adhesives
- Water soluble
- Can be made cold, but usually cooked
- Can be added to other adhesives (more flexible but weaker)

Carboxymethyl Cellulose (CMC)

- Stronger than MC, weaker than starch pastes
- Water soluble
- Does not need to be cooked
- Long shelf life

Demo: Applying In-House Repair Techniques

	Document Tape 	Heat-Set Tissue 	Tissue and Paste 
Pros	<ul style="list-style-type: none">• Quickest technique• Adheres well to coated papers• Relatively inexpensive	<ul style="list-style-type: none">• Works well for most papers• Fast technique with no risk of tidelines or cockling• Sticks well to plastic coated papers	<ul style="list-style-type: none">• Works well for nearly all papers• Appropriate for rare materials• Works well with scarfed and overlapping tears• Matte appearance• Relatively reversible
Cons	<ul style="list-style-type: none">• Not reversible, less appropriate for rare materials• Will likely discolor over time• Unsure of adhesive formula	<ul style="list-style-type: none">• Can be difficult to reverse• Less appropriate for scarfed tears since overlapped areas will not adhere• Use caution with heat sensitive objects• Repair may be more visible	<ul style="list-style-type: none">• May not stick to plastic coated papers• Can cause tidelines and cockling• Slowest method

Resources and Questions

- PDF resource document will be made available to attendees after the workshop
- Includes:
 - Hands-on classes
 - How to find a conservator
 - Suppliers
 - Vendors
 - Tutorials (mending, paste, heat-set, housing, etc.)
 - And more!

Final Questions?

(Don't forget to get a swag bag with surface cleaning supplies!)